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ABSTRACT

This study investigated central assumptions of an appeasement model of blushing that holds that blushing is a reliable communication of apology for social transgressions. Male and female college student subjects (N=160) were assigned to actor or observer roles; the actors then performed a series of either embarrassing or innocuous tasks under public or "private" conditions. Actors' heart rates and cheek and finger temperatures were continuously monitored throughout, and all subjects' chronic embarrassability was assessed. Actors reported more embarrassment and blushing in public than in private conditions, and were more embarrassed when they had performed the embarrassing, rather than the innocuous tasks. Embarrassment was found to be recognizable and engendered kindly reactions from observers. In general, subjects experienced greater increases in pulse rate and greater decreases in finger temperature when they performed the tasks in public conditions than in private. As expected, actors performing the embarrassing tasks were perceived to be more embarrassed and abashed and to blush more than those who engaged in more innocuous activity. The data are consistent with several assumptions of the appeasement model. The observers' judgments fit the actors' perceptions of their emotional displays fairly well. Further, public embarrassment received favorable, non-rejecting reactions from the observer. (LLL)

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Blushing as an Appeasement Gesture:

Felt, Displayed, and Observed Embarrassment

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ABSTRACT

Investigated central assumptions of an appeasement model of blushing that holds that blushing is a reliable communication of apology for social transgressions. Male or female subjects were assigned to actor or observer roles; the actors then performed a series of either embarrassing or innocuous tasks under public or "private" conditions. Actors' heart rates and cheek and finger temperatures were continuously monitored throughout, and all subjects' chronic embarrassability was assessed. Cheek temperature was positively related to both self-perceived blushing and the observers' judgments of the actors' embarrassment. Embarrassment was found to be recognizable, was based on involuntary physiological responses, and engendered kindly reactions from observers, findings all consistent with an appeasement model.

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Blushing as an Appeasement Gesture:
Felt, Displayed, and Observed Embarrassment

Blushing is an involuntary response of the parasympathetic nervous system (PNS) that is a hallmark of embarrassment (Buss, 1980). Why should embarrassment often cause such a response? The answer, according to a provocative new theory, is that blushing serves an ancient evolutionary function: by blushing, an embarrassed actor communicates that he or she understands and shares the established norms of conduct and is apologetic about breaking them (Castlefranchi & Poggi, 1990). Blushing may thus be a gesture of appeasement that helps embarrassed people to avoid social rejection (Leary, 1989). In particular, since people cannot feign blushing, the presence of a blush may allow observers to distinguish well-meaning persons who are actually remorseful about their social transgressions from other, more worrisome people who are unconcerned about broken rules.

Most of the emerging studies on blushing have obtained results that support this appeasement function (Asendorpf, 1989; Leary & Meadows, in press). Uncertainties remain, however. We lack documentation of the actual connections among felt embarrassment and blushing, and the displayed embarrassment and blushing evident to observers. More importantly, central assumptions of the appeasement model have yet to be directly tested. The model assumes that blushing should be more obvious 1) the greater one's embarrassment, 2) the more public one's predicament, and 3) the greater one's fear of exclusion. This study sought to examine these propositions.

Subjects and Method

Eighty male and 80 female volunteers from psychology classes first completed Modigliani's (1968) Embarrassability Scale, a measure of chronic susceptibility to embarrassment. Thereafter, in the laboratory, two subjects (each initially unaware of the other's presence) were randomly assigned to either an actor or observer role.

Actors were then randomly assigned to either a public or private performance condition. Public actors were truthfully informed that an observer would be watching through a one-way mirror and would be able to see and hear them clearly. By contrast, private actors were told that no one would be able to see or hear them.

After baseline heart rate and cheek and finger temperature measurements, the actor randomly drew a list of either embarrassing or unembarrassing tasks. The embarrassing tasks instructed actors to 1) sing the "Star Spangled Banner;" 2) laugh for 30 seconds as if they had just heard a joke; and 3) place an earplug in one ear and sing along with a recording of "Feelings". By comparison, the innocuous tasks directed actors to write out the words to the "Star Spangled Banner," and merely listen to the recording. Once the tasks were chosen, actors were given another two minutes to plan their performances.

Finally, the experimenter opened curtains that revealed the observation window in the public condition (or ignored them, leaving a small crack in the curtains in the private condition) and the actor began the tasks. The actors' physiological reactions were monitored continuously as the observer looked on. After the tasks, both the actors and observers provided self-reports of their perceptions.

The study thus constituted a 2 by 2 by 2 by 2 factorial design, including subject sex, subject role (actor or observer), performance condition (public versus private), and type of tasks (embarrassing versus innocuous), with the actors' embarrassability as a covariate.

Results

Actors' Self-Reports. Both the performance and task manipulations were apparently successful. MANCOVAs showed that actors reported more embarrassment and blushing in public than in private conditions, and were more embarrassed when they had performed the embarrassing, rather than the innocuous, tasks. The actors' embarrassability was also influential; the more embarrassable the actors, the higher their embarrassment and the more pronounced their self-perceived blushing.

Further, embarrassed actors reported more intense physiological symptoms than did those who performed the innocuous tasks, and believed they had displayed more embarrassment, blushing, and abashment (Table 1). The nature of the tasks befalling the actors fundamentally influenced both their perceived internal changes and assumed outward displays.

Physiological Measures. The performance condition had relatively minor effects on the actors' self-reports, but substantially influenced their physiological responses. Interactions of performance condition and experimental task emerged on changes in both heart rate and finger temperature (Table 2). In general, subjects experienced greater increases in pulse rate (HR) and greater decreases in finger temperature when they performed the tasks in public conditions than in private. Both of these results suggest PNS withdrawal instead of sympathetic activation (Martin & Venables, 1980), a pattern characteristic of embarrassment (Leary, 1989) that serves to differentiate it from anxiety or fear.

The nature of the tasks affected cheek temperature, as expected; actors performing the embarrassing tasks had warmer cheeks than those who engaged in more innocuous activity.

Observer's Perceptions. The observers judged actors who performed the embarrassing tasks to be more embarrassed and abashed, and to blush more, than did actors who performed the innocuous tasks (Table 3). Thus the actors felt that their embarrassment was more apparent, and the observers perceived that the actors were more embarrassed when a predicament actually existed than when it did not.

Interestingly, embarrassed actors made better impressions on the observers than did nonembarrassed actors. As other studies have shown (cf. Semin & Manstead, 1982) and the appeasement model predicts, appropriate displays of embarrassment engender acceptance, not disfavor.

Correlational Analyses. The actors' felt embarrassment correlated moderately highly with their perceived displays of both embarrassment and blushing. Further, the observers' perceptions of the actors' embarrassment was obviously related to the actors' perceived displays (Table 4). Finally, actual changes in cheek temperature were positively related to both the actors' beliefs about their displayed blushing, r (68) = .24, and the amount of blushing perceived by the observers, r (68) = .25, both p's < .05.

Conclusions

The data are consistent with several assumptions of the appeasement model. The observers' judgments fit the actors' perceptions of their emotional displays fairly well, and the observers were typically able to tell when the actors were embarrassed. In fact, the observers' judgments were modestly but reliably associated with the temperature of the actors' cheeks, just as the appeasement view would predict. When blushing occurred, both the actor and observer tended to know it. Further, public embarrassment received favorable, not rejecting, reactions from the observers.

The results suggest that embarrassment is recognizable, that it is based on involuntary physiological responses, and that it engenders kindly reactions from observers. However, they do not support the argument that visible embarrassment is a solely public event, because the actors' self-reports were not markedly affected by the public/private distinction. Further investigation of the influence of public and private conditions on embarrassment displays is suggested.

References

Asendorpf, J. (1989). Shyness as a final common pathway for two different kinds of inhibition. Journal of Personality and Social Psychology, 57, 481-492.

Buss, A. H. (1980). Self-consciousness and social anxiety. San Francisco: Freeman.

Castlefranchi, C., & Poggi, I. (1990). Blushing as a discourse: Was Darwin wrong? In R. Crozier (Ed.), Shyness and embarrassment: Perspectives from social psychology (pp. 230-251). Cambridge: Cambridge University Press.

Leary, M. R. (1989, August). Fear of exclusion and appeasement behaviors: The case of blushing. In R. Baumeister (Chair), The need to belong. Symposium conducted at the meeting of the American Psychological Association, New Orleans.

Leary, M. R., & Meadows, S. (1991). Predictors, elicitors, and concomitants of social blushing. Journal of Personality and Social Psychology, 60, 254-262.

Martin, I., & Venables, P. (1980) Techniques in psychophysiology. New York: Wiley.

Modigliani, A. (1968). Embarrassment and embarrassability. Sociometry, 31, 313-326.

Semin, G. R., & Manstead, A. S. R. (1982). The social implications of embarrassment displays and restitution behavior. European Journal of Social Psychology, 12, 367-377.

Table 1

Main Effects of Task Condition on Actors Self-Reports

Dependent Measure	Task Condition		F	p less than
	Embarrassing	Innocuous		
Manipulation Checks				
Embarrassment	16.8	13.6	15.12	.001
Blushing	7.8	3.3	10.24	.002
Physiological Changes				
Muscle Tension	7.3	5.1	4.80	.03
Stomach Butterflies	5.6	3.7	10.71	.002
Warmth in Cheeks	7.6	4.8	13.41	.001
Pulse Acceleration	7.8	5.1	11.24	.001
Blushing	7.3	2.6	43.56	.001
Voice Trembling	9.8	1.9	79.53	.001
Displayed Emotions				
Embarrassment	10.6	5.3	15.18	.001
Blushing	9.1	4.2	19.96	.001
Flustered	8.9	4.8	13.37	.001
Abashed	8.9	5.4	7.08	.01

Note. All items, except for the first, were 19-point scales. The range on the first item was 4 - 28.

Table 2

Interactions of the Independent Variables and Procedural Tasks on the Physiological Change Scores

Independent Variable	Procedural Task: Task Selection	Curtain	"Banner"	Laugh	"Feelings"
			Heart Rate		
Performance Condition					
Public	11.8_{ab}	18.0_{acde}	20.3_{bfg}	11.9_{df}	11.2_{eg}
Private	5.8_{hi}	6.6_{c}	11.9_{h}	11.9_{i}	7.3
			Finger Temperature		
Public	$-.36_{a}$	-1.95_{a}	-2.29_{a}	-2.97_{a}	-3.37_{a}
Private	$-.86_{bc}$	-1.53_{bde}	-2.14_{cf}	-2.66_{bd}	-2.77_{cef}
			Cheek Temperature		
Task Condition					
Embarrassing	-.10	$-.07_{a}$	$-.21_{b}$	.14	.01
Innocuous	$-.07_{cde}$	$-.32_{acd}$	$-.77_{bce}$	$-.87_{df}$	$-.40_{ef}$

Note. Heart rate is scaled in beats per minute. Finger and Cheek temperatures are degrees Farenheit. MANCOVAs were performed on the raw data using baseline scores as covariates; scores representing changes from baseline are presented here for easier interpretation. Means sharing the same single-letter subscript differ by at least $p < .05$.

Table 3

Main Effects of Task Condition on Observers' Perceptions

Dependent Measure	Task Condition		F	p less than
	Embarrassing	Innocuous		
Actor's Embarrassment	17.4	14.6	8.11	.006
Actor's Blushing	6.3	3.8	5.95	.02
Actor's Abashment	7.5	4.8	7.94	.007
Impression Favorability	10.8	7.2	10.06	.002

Note. All items, except for the first, were 19-point scales. The range on the first item was 4 - 28.

Table 4

Intercorrelations among Actors' and Observers' Reported and Perceived Embarrassment

	Felt Blushing	Displayed Embarrassment	Displayed Blushing	Perceived Embarrassment	Perceived Blushing
Actors':					
Felt Embarrassment	.32	.58	.42	.41	.22
Felt Blushing	1.00	.37	.66	.36	.19
Displayed Embarrassment		1.00	.69	.30	.18
Displayed Blushing			1.00	.32	.20
Observers':					
Perceived Embarrassment				1.00	.45
Perceived Blushing					1.00

Note. All correlations higher than .20 are significant at $p < .05$.